

## Original Research Article

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# Sustainability of exclusive breast feeding among primigravida women: a hospital based study in eastern India

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## ABSTRACT

**Background:** EBF for 6 months is a challenge for many mothers. The WHO reported the prevalence of EBF lasting at least 6 months as 38% in 2013 and most recently reported as 44% in 2021. As a result, the WHO has set strategic goals for 6-month EBF to achieve 70% prevalence worldwide by 2030.

**Methods:** Descriptive survey research design was used, with the variables as sustainability of Exclusive Breast Feeding among 100 postnatal primi gravida attending a tertiary care hospital in Eastern India. Sampling technique was Systemic random sampling technique. Standardized tool (Feed Cat Tool) was used as a data collection instruments.

**Results:** 93% mother fed exclusively their infant with breast milk whereas 5% fed their infant both with breast milk and formula milk and 2% did not feed their infant with breast milk they gave only formula milk to their infant upto 1.6 months of their infant age. At 3 months, 81% fed exclusively their infant with breast milk only whereas 17% fed their infant both with breast milk and formula milk At 6 months 73% fed exclusively their infant with breast milk whereas 24% fed their infant both with breast milk and formula milk.

**Conclusions:** The sustainability of Exclusive Breast Feeding reduces with the increase in infant's age. The study had limitations like, the data were collected after their discharge from hospital stay during their follow up visits and by interview technique only which may lead to inaccurate evaluation.

**Keywords:** Sustainability, Exclusive breast feeding, Primigravida women

## INTRODUCTION

Current evidence supports the World Health Organisation (WHO) recommendation of Exclusive Breast Feeding (EBF) for the first 6 months of life, with ongoing breastfeeding after solid food introduction until 2 years of age (World Health Organization, 2022). Exclusive breastfeeding is defined as feeding infants with only

breast milk directly, or from a bottle with expressed breast milk, without additional food or drink, except vitamins, minerals and medicines (World Health Organization, 2015). However, EBF for 6 months is a challenge for many mothers. The WHO reported the prevalence of EBF lasting at least 6 months as 38% in 2013 (World Health Organization, 2014). Since then, the prevalence of EBF has continued to be low; most recently

reported as 44% in 2021 (World Health Organization, 2021). As a result, the WHO has set strategic goals for 6-month EBF to achieve 70% prevalence worldwide by 2030 (World Health Organization, 2019). Shorter EBF duration and EBF cessation are associated with increased risk of adverse health outcomes for both the infant and mother.<sup>1-4</sup> Globally, 44% of babies under 6 months of age are exclusively breastfed, whereas, at the age of 1 year, 68% of children are breastfed.<sup>4</sup> At the age of 1 week, 55.5% of infants are exclusively breastfed and a first decrease is seen in the first 4 months. At the age of 17 weeks, 30.5% infants are exclusively breastfed.<sup>3</sup>

Adequate nutrition during early childhood ensures growth and development of children and breast milk is better than any other products given to an infant.<sup>4</sup> However, studies on exclusive breastfeeding practice are limited in developing country like India. Comparatively, fewer studies have been conducted in developing countries to identify the barriers to breastfeeding exclusivity among mothers while available evidence has not been systematically synthesised.<sup>2</sup> This necessitates to conduct a study and examining the mother's practices for Exclusive Breast Feeding for 6 months. Furthermore, health care professionals and policy makers would be informed on how best to support mothers and enhance the success of breastfeeding promotion interventions in developing countries.<sup>2-9</sup>

### **Objectives**

Objectives of current study were; to find out the sustainability of Exclusive Breast Feeding among Primigravida women upto 1.6 months, To find out the sustainability of Exclusive Breast Feeding among Primigravida women upto 3 months and To find out the sustainability of Exclusive Breast Feeding among Primigravida women upto 6 months.

## **METHODS**

### **Research approach and design**

This Study was conducted as Descriptive survey research design, with the variables as Intentions and attitude of primigravida women towards Exclusive Breast Feeding

### **Study location, duration and population**

Location for current study was a tertiary care hospital in Eastern India. For collecting the data a period of 1 year was taken (2020-2021). All Prima gravida women after delivery attending a tertiary care hospital in Eastern India was taken as study population.

### **Sample size, sampling technique and criteria for sample selection**

Systemic random sampling technique was adopted to select (n=100) primigravida women in the present study.

Primigravida Women those were admitted in the IPD section with no major previous complications in and after delivery, undergone any type/ mode of delivery process and the Primigravida and discharge from that hospital and came for follow up visits. Women who were interested to participate in the study and give consent for participation.

### **Variables**

Sustainability of exclusive breast feeding among primigravida women were selected as variables.

### **Data collection tools and technique**

The data were collected by standardized tool. Demographic tools were self structured by the researcher. To check the sustainability of exclusive breast feeding The Feed Cat Tool was used.<sup>10</sup> The feedcat tool, contains two parts: Questions asked to determine what and how the baby was fed and A chart to indicate the feeding category for each time point and recall period. Informed consent was taken from and patient information sheets were given to each and every participant. Only those women were taken who had given voluntary consent to participate in the study. All the ethical principles of research were followed by the researcher though out the data collection process. Guideline followed: Strobe checklist guideline for observational study was followed for preparation of the manuscript.

### **Statistical analysis**

Descriptive statistics were used to find the frequency, percentage, range, mean, median, standard deviations and normally distribution of data of all the variables of the study. The statistical tools used to compute the data was MS Excel 07 and IBM SPSS-N-23. The reliability for the tool was calculated with statistical reliability techniques such as, Chronbach's alpha method.

## **RESULTS**

### **Findings related to demographic characteristics of the study participants**

Data presented in (Table 1) showed that 47% primigravida women were in the age group of 20 to 25 years of age group, 54% of the respondent were from Muslim religion, 4% respondents were employed and were on leave, 96% were house wives, 1% was school teacher and 1% was lawyer and 2% were working in Police, among the 4 respondents who were working 3% of them got 6 months maternity leave and only 1% got maternity leave upto 1 year. Among the respondent 53% delivered girl baby and 47% delivered boy baby and 62% women delivered by Caesarian section and 32% delivered normally.

**Table 1: Frequency and percentage distribution showing demographic characteristics of the primigravida women (n=100).**

Variables	N	%
<b>Age (years)</b>		
15-20	28	28
20-25	47	47
25-30	20	20
30-35	5	5
<b>Religion</b>		
Hindu	46	46
Muslim	54	54
<b>Working status of women</b>		
Yes	04	04
No	96	96
<b>Gender of baby</b>		
Boy	47	47
Girl	53	53
<b>Delivery mode</b>		
Normal Delivery	38	38
Caesarean Delivery	62	62

**Findings related to sustainability of exclusive breast feeding by primigravida women**

Data presented in (Table 2) showed that 93% fed exclusively their infant with breast milk whereas 5% fed their infant both with breast milk and formula milk and 2% did not feed their infant with breast milk they gave only formula milk to their infant upto 1.6 months of their infant age. It also showed that 52 % fed their infant with only breast milk 10-12 times per day, 3% reported that they fed their infant with breast milk 12 times per day and they fed 1 time with formula specially at night and 2 % fed their infant only with formula milk for 6 times per day during 1.6 months of their infant's age. Data also showed that 93% fed their infant directly from their breast, 2% reported they fed their infant with bottle and 5% said that they fed their infant with both the method. Among the women 1% used breast pump and 99% did not use any special equipments to feed their infant. Data presented in (Table 3) showed that 93% women scored above median (10) whereas 7% of them scored below median (10) for sustaining Exclusive Breast Feeding at 1.6 months.

Data presented in (Table 4) showed that 81% fed exclusively their infant with breast milk whereas 17 % fed their infant both with breast milk and formula milk and 2% did not feed their infant with breast milk they gave only formula milk to their infant upto 3 months of their infant age. It also showed that 45% fed their infant with only breast milk 10-12 times per day, 4% reported that they fed their infant with breast milk 8 times per day and they fed 2 times with formula specially at night, 2% reported they fed breast milk 8 times and formula 8 times, 6% reported they fed their infant with breast milk 10 times and with formula 4 times and 2 % fed their infant only with formula milk for 10 times per day during 3

months of their infant's age. Data also showed that 78% fed their infant directly from their breast, 2% reported they fed their infant with bottle and 20% said that they fed their infant with both the method. Among the women 1% used breast pump and 99% did not use any special equipments to feed their infant.

**Table 2: Frequency distribution showing the sustainability of exclusive breast feeding among Primigravida women up to 1.6 months (n=100).**

Variables	N	%
<b>Type of Feeding</b>		
Breast milk	93	93
Breast milk & formula	05	05
Formula	02	02
<b>Number of feeding in a day</b>		
10-12 times (breast milk)	52	52
12-15 times (breast milk)	40	40
15-18 times (breast milk)	1	1
Breast milk 12 times with formula 1 times	3	3
Breast milk 08 times with formula 2 times	2	2
Formula 06 times	2	2
<b>Mode of feeding</b>		
Breast	93	93
Bottle	2	2
Both	5	5
<b>Use of equipment's for BF</b>		
Yes	1	1
No	99	99
<b>Use of best pump</b>		
Yes	1	1
No	99	99

**Table 3: Median score showing the sustainability of exclusive breast feeding among Primigravida women up to 1.6 months (n=100).**

Score distribution	N	%
<Median score (10)	7	7
≥Median score (10)	93	93

Data presented in (Table 5) showed that 86% women scored above median (10) whereas 14% of them scored below median (10) for sustaining Exclusive Breast Feeding at 3 months. Data presented in (Table 6) showed that 73% fed exclusively their infant with breast milk whereas 24% fed their infant both with breast milk and formula milk, 2% did not feed their infant with breast milk they gave only formula milk to their infant upto 6 months and 1% started solid food at 6 months of their infant age. It also showed that 34% fed their infant with only breast milk 10-12 times per day, 10% reported that they fed their infant with breast milk 8 times per day and they fed 4 times with formula, and 2% fed their infant only with formula milk for 12 times per day during 6 months of their infant's age and 1% introduced solid foods to their infant. Data also showed that 54% fed their infant directly from their breast, 2% reported they fed their infant with

bottle and 31% said that they fed their infant with both the method and 1% weaned their infant.

**Table 4: Frequency distribution showing the sustainability of exclusive breast feeding among Primigravida women up to 3 months (n=100).**

Variables	N	%
<b>Type of feeding</b>		
Breast milk	81	81
Breast milk & formula	17	17
Formula	2	2
<b>Number of feeding in a day</b>		
10-12 times (breast milk)	45	45
12-15 times (breast milk)	33	33
15-18 times (breast milk)	00	00
Breast milk 08 times with formula 02 times	04	04
Breast milk 08 times with formula 8 times	10	10
Breast milk 10 times with formula 04 times	06	06
Formula 10 times	02	02
<b>Mode of feeding</b>		
Breast	78	78
Bottle	02	02
Both	20	20
<b>Use of equipment's for BF</b>		
Yes	1	1
No	99	99
<b>Use of Best Pump</b>		
Yes	1	1
No	99	99

**Table 5: Median score showing the sustainability of exclusive breast feeding among Primigravida women up to 3 months (n=100).**

Score distribution	N	%
<Median score (10)	14	14
≥Median score (10)	86	86

Data presented in (Table 7) showed that 61% women scored above median (10) whereas 39% of them scored below median (10) for sustaining Exclusive Breast Feeding upto 6 months age of their infant. Data presented in (Table 8) showed that at 1.6 months of infant age 93% fed their infant exclusively with breast milk, whereas at 3 months of infant age 86% women fed their infant exclusively with breast milk and upto 6 months of infants age 61% women practiced exclusive breast feeding. The (Table 8) also depicted that none of the women Predominately fed their infant with Breast Milk that is infant received mostly breast milk with alternative feeding methods (75% /3 of 4 feeds or more) upto 1.6 months of their infant, whereas 2% women Predominately fed their infant with Breast Milk at 3 months of their infant age and 16% of them Predominately fed their infant with Breast Milk at 6 months of their infant age.

**Table 6: Frequency distribution showing the sustainability of exclusive breast feeding among Primigravida women up to 6 months (n=100).**

Variables	N	%
<b>Type of feeding</b>		
Breast milk	73	73
Breast milk & formula	24	24
Formula	02	02
Solid food	01	01
<b>Number of feeding in a day</b>		
10-12 times (breast milk)	34	34
12-15 times (breast milk)	22	22
15-18 times (breast milk)	00	00
Breast milk 8 times with formula 4 times	10	10
Breast milk 06 times with formula 08 times	10	10
Breast milk 06 times with formula 10 times	11	11
Formula 12 times	02	02
Introduce solid food	01	01
<b>Mode of feeding</b>		
Breast	54	54
Bottle	02	02
Both	31	31
Weaned	01	01

**Table 7: Median score showing the sustainability of exclusive breast feeding among Primigravida women up to 6 months (n=100).**

Score distribution	N	%
<Median score (10)	39	39
≥Median score (10)	61	61

**Table 8: Frequency and percentage distribution of overall sustainability of exclusive breast feeding among Primigravida women (n=100).**

Variables	At 1.6 months		At 3 months		At 6 months	
	N	%	N	%	N	%
Exclusively breastfed	93	93	86	86	61	61
Predominately breast milk fed	0	0	2	2	16	16
Partial breast milk fed	5	5	9	9	16	16
Minimally breast milk fed	2	2	3	3	6	6
Weaned	0	0	0	0	1	1

The data in the table also showed that only 5% of the women Partially breastfed their infant that is infant received about half breast milk with alternative feeding methods upto 1.6 months whereas 9% women Partially breastfed their infant with Breast Milk at 3 months of their infant age and 16% of them Partially breastfed their infant with Breast Milk at 6 months of their infant age.

The (Table 8) also depicted that 2% of the women Minimally fed their infant with Breast Milk that is infant received some breast milk with alternative feeding methods (25% / 1 of 4 feeds or more) upto 1.6 months of their infant, whereas 3% women Minimally fed their infant with Breast Milk at 3 months of their infant age and 6% of them Minimally fed their infant with Breast Milk at 6 months of their infant age. It was also clear from the table that 1% woman weaned her infant at 6 month of her infants age.

## DISCUSSION

In the present study, 81% fed exclusively their infant with breast milk whereas, 17% fed their infant both with breast milk and formula milk and 2% did not fed their infant with breast milk they gave only formula milk to their infant at 3 months of their infant age. Also 86% women scored above median (10) whereas 14% of them scored below median (10) for sustaining exclusive breast feeding at 3 months. In contrast to the present study, a study on Improved rates of exclusive breastfeeding at 14 weeks of age in KwaZulu Natal, South Africa: what are the challenges now? Result of the study showed that, a total of 4172 interviews were conducted with mothers and caregivers of 14 week old infants. Among mothers 49.8% were EBF, 23.1% were MBF and 27.0% were not breastfeeding.<sup>8</sup> The present study, showed that 93% fed exclusively their infant with breast milk up to 1.6 months, 81% fed exclusively their infant with breast milk up to 3 months and 73% fed exclusively their infant with breast milk up to 6 months of their infant's age. Whereas in the 1<sup>st</sup> month, 5% fed their infant both with breast milk and formula milk and 2% did not fed their infant with breast milk, in the 3<sup>rd</sup> month 17 % fed their infant both with breast milk and formula milk and 2% did not fed their infant with breast milk and at 6 months 24 % fed their infant both with breast milk and formula milk, 2% did not fed their infant with breast milk they received formula milk only. In contrast to the present study, a study on Prevalence of exclusive breastfeeding for the first six months of an infant's life and associated factors in a low-middle income country. The study result showed that, nearly all the infants were breastfed (99.3%) with the prevalence of exclusive infant breastfeeding in the first six months of life at 14.2%. Approximately one-third of the mothers (38.9%) practice mixed feeding (a combination of direct breast feeding and expressed breast milk). In non-breastfed infants, 63.7% were given infant formula and 42.2% received complementary food feedings when they were less than six months of age.<sup>9</sup>

### Limitations

The present study had certain limitations that it did not find the causal relation between the outcome and the related factors. The data were collected after their hospital stay and by interview technique only and also due to recall bias, which may lead to inaccurate evaluation.

Respondents may show socially desirable behaviour while responding to researcher.

## CONCLUSION

From the study results it can be concluded that in the 1.6 months of infant most of the primi gravida women fed their infant exclusively with breast milk and that also directly from breast without using any special equipments for feeding their infant. In the 3<sup>rd</sup> month of infant's age the number of exclusive breast fed infant slightly decreases from the previous one whereas in 6 months the number of exclusively breast fed infant reduces significantly in comparison to the 1.6 months, even weaning is done by mothers at 6 months. Percentage of primigravida women who predominately, partially, and minimally fed their infant with exclusive breast milk increases with the age of infant that is from 1.6months to 3 months to 6months. To increase the rate of exclusive breast-feeding in Eastern India, it is important that community health is strengthened, and health workers are trained on national breast-feeding policies. It is also important to have a breast feeding friendly nursing staff and corner in IPDs as well as in the OPDs who can assist and trained about the importance and technique of exclusive breast feeding and reduce the misconceptions of the society and barriers related to exclusive breast feeding upto 6 months of the infant's age in India.

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